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	First Named Inventor	David J. Edlund	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: August 16, 2006

In re Application of:

DAVID J. EDLUND, ARNE LaVEN,
WILLIAM A. PLEDGER and CURTISS RENN

Serial No. : 10/810,960

Group Art Unit: 1745

Filed : March 25, 2004

Examiner: Tracy M. Dove

For : OXIDANT-ENRICHED FUEL CELL SYSTEM

Mail Stop Appeal Brief - Patents

Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

REPLY BRIEF FOR APPELLANT

Introduction

Pursuant to 37 CFR 41.41, this brief is submitted in reply to the Examiner's Answer mailed July 13, 2006, regarding the appeal of the above-identified patent application. Below, Appellant briefly addresses the following: (1) clarification of Appellant's position regarding the Examiner's proposed combination of Okamoto and St-Pierre; and (2) clarification of Appellant's position regarding the Examiner's proposed combination of Okamoto, St-Pierre, and Ito.

I. The Examiner's Proposed Combination of Okamoto and St-Pierre Creates an Inoperative Device.

In answer to Appellant's position that the proposed combination of Okamoto and St-Pierre creates an inoperative device, the Examiner asserts that (a) "the claimed invention does not require 'a pressure-driven separation process'" [Answer, p. 4], and (b) "one of skill [in the art] would have known that the separation membrane taught by St-Pierre would inherently require a pressure-driven process." [*Id.*]

First, Appellant does not assert that independent claims 1 and 27 positively recite a pressure-driven separation process. Rather, Appellant submits that the Examiner's proposed combination of the separation membrane disclosed in St-Pierre with the fuel cell system of Okamoto creates an inoperable device because the fuel cell system of Okamoto does not provide the necessary pressure required to utilize an oxygen-selective membrane. In other words, the Examiner proposes to simply combine the oxygen-selective membrane disclosed in St-Pierre with the fuel cell system of Okamoto without further establishing how one of ordinary skill would go about doing so. That is, the mere combination of the two references creates an inoperable device because the fuel cell system of Okamoto *only* includes blowers, which do not provide pressures sufficient to facilitate the use of an oxygen-selective membrane.

Second, even if the Examiner's assertion that one of skill in the art would have known that the separation membrane taught by St-Pierre would inherently require a pressure-driven process, this only strengthens Appellant's argument that the combination of Okamoto and St-Pierre would *not* have been made by one of skill in the art. Knowing that membrane-driven separation requires elevated air pressures, and knowing that the blower of Okamoto does not provide those elevated pressures, one of skill in the art would not have placed a membrane-based separation system, as disclosed in St-Pierre, into the blower-based system of Okamoto. In other words, one of skill in the art would have known that a nonfunctional apparatus would result if a system requiring elevated air pressures was provided only with atmospheric-pressure air.

Accordingly, Appellant maintains its belief that the Examiner has failed to establish a *prima facie* case of obviousness based upon the proposed combination of Okamoto with St-Pierre.

II. Ito Fails to Disclose Pressuring a Supply of Fuel with the Oxygen-Depleted Stream from an Oxygen-Enrichment Assembly.

The Examiner submits that Appellant's assertion that "Ito 'simply does not disclose pressuring a supply of [sic] fuel with the oxygen-depleted stream to form an oxygen-enrichment assembly' ... is merely an unsupported assertion" and that Appellant has not addressed the Examiner's motivation for combining the references. [Answer, p. 5]. As an initial response, Appellant feels it necessary to clarify that Appellant's position is that Ito does not disclose pressurizing a supply of fuel with the oxygen-depleted stream *from* an oxygen-enrichment assembly, as opposed to pressurizing a supply of fuel with the oxygen-depleted stream *to form* an oxygen-enrichment assembly.

Moreover, Applicant's position is that even if the references were combined, the claimed subject matter is not disclosed. Specifically, Ito fails to disclose or suggest pressurizing a supply of fuel with the oxygen-depleted stream from an oxygen-enrichment assembly. Therefore, the Examiner has not, and cannot, establish a *prima facie* case of obviousness based upon the proposed combination of Okamoto, St-Pierre, and Ito because the references fail to teach or suggest all of the claimed limitations.

At page 14 of Appellant's Appeal Brief, Appellant describes the liquid fuel combustion apparatus of Ito. As mentioned, Ito discloses using nitrogen-enriched air from an oxygen-enriched air generating means for *atomizing* a stream of liquid fuel that is being delivered to a burner, thus providing for better combustion. "Atomize" is defined as "to reduce to tiny particles or a fine spray." [The American Heritage Dictionary of the English Language (4th ed. 2000)]. Therefore, Ito fails to disclose or suggest a byproduct stream produced from an oxygen-enrichment assembly for *pressurizing* a supply of liquid fuel, as recited in claims 45, 48, and 61.

Instead, Ito at best discloses using the oxygen-depleted stream to atomize a flow of liquid fuel to a burner. This is distinctly different from using this stream to pressurize a supply of fuel. Accordingly, the Examiner's *prima facie* case cannot be made because the proposed combination fails to disclose or suggest any use of the oxygen-depleted stream from the oxygen-enrichment assembly to pressurize a supply of fuel.

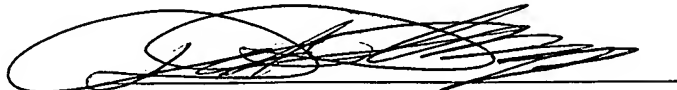
Moreover, and in recognition of the Examiner's arguments from the Examiner's Answer, the required *prima facie* case of obviousness also fails because the references do not have a reasonable expectation of success and there is no teaching or motivation to make the proposed three-way combination of references other than to try to arrive at Appellant's claimed subject matter. As discussed, the primary combination of Okamoto and St-Pierre produces an inoperative device. To this, it is further proposed to add the atomizing burner of Ito. It follows that the addition of Ito's atomizing burner will not remedy the inoperable combination of Okamoto and St-Pierre.

The Examiner argues that "one of ordinary skill in the art would recognize the advantage in using an existing high(er)-pressure process stream to pressurize another process stream based [on] environmental, economic, and system efficiency factors." [Final Office action, p. 6]. However, none of the references teach or suggest the subject matter recited in the claims at issue. As discussed, claims 45, 48, and 61 recite that the oxygen-depleted stream is used to pressurize a supply of fuel, not to atomize a fuel stream for a burner (as disclosed in Ito). Therefore, the required teaching or motivation to make the proposed combination to achieve the subject matter recited in these claims cannot be present because the references themselves are directed to a different solution and fail to disclose or suggest the structure recited in the claims.

Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness based upon the proposed combination of Okamoto, St-Pierre, and Ito.

Respectfully submitted,

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A handwritten signature in dark ink, appearing to read 'David S. D'Ascenzo', is written over a horizontal line.

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